MDR-XB950B1

SERVICE MANUAL

Ver. 1.0 2017.01

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Chinese Model

SPECIFICATIONS

General

Communication system: BLUETOOTH Specification version 4.1
Output: BLUETOOTH Specification Power Class 2
Maximum communication range: Line of sight approx. 10 m (30 ft)[1]
Frequency band: 2.4 GHz band (2.4000 GHz - 2.4835 GHz)
(CH)
频率范围：2400 MHz – 2483.5 MHz
发射功率：≤ 20 dBm (EIRP)
Modulation method: FHSS (Except CH)
Compatible BLUETOOTH profiles[2]**:**
A2DP (Advanced Audio Distribution Profile)
AVRCP (Audio Video Remote Control Profile)
HFP (Hands-free Profile)
HSP (Headset Profile)
Supported Codec[3]**:** SBC[4], AAC[5], aptX
Supported content protection method:
SCMS-T
Transmission range (A2DP):
20 Hz - 20,000 Hz (Sampling frequency 44.1 kHz)
Included items:
Wireless stereo headset (1)
Micro-USB cable (approx. 50 cm (19 3/4 in.)) (1)
Headphone cable (approx. 1.2 m (47 1/4 in.)) (1)
Reference Guide (1)
Operating Instructions (1)
Other documents (1 set)
(US, CND, AEP, UK, CH, LA only)

1) The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, reception sensitivity, antenna's performance, operating system, software application, etc.
2) BLUETOOTH standard profiles indicate the purpose of BLUETOOTH communications between devices.
3) Codec: Audio signal compression and conversion format
4) Subband Codec
5) Advanced Audio Coding

Wireless stereo headset

Power source:
DC 3.7 V: Built-in lithium-ion rechargeable battery
DC 5 V: When charged using USB
Mass: Approx. 280 g (10 oz)
Operating temperature:
0 °C to 40 °C (32 °F to 104 °F)
(Except RU, E, IND, AUS)
5 °C to 35 °C (41 °F to 95 °F) (RU, E, IND, AUS)
Rated power consumption: 1.5 W (Except US, CND)
Usage hours:
When connecting via the BLUETOOTH device
Music playback time: Max. 18 hours
Communication time: Max. 18 hours
Standby time: Max. 200 hours
When connecting via the headphone cable with the unit turned on:
Max. 18 hours
Note: Usage hours may be shorter depending on the Codec and the conditions of use.
Charging time:
Approx. 4 hours
About 6 hours of continuous communications is possible after 1 hour charging.
Note: Charging and usage hours may be different depending on the conditions of use.
Charging temperature: 5 °C to 35 °C (41 °F to 95 °F)

Receiver

Type: Closed, Dynamic
Driver unit: 40 mm
Frequency response: 3 Hz - 28,000 Hz
Impedance:
32 Ω (1 kHz) (when using the supplied headphone cable) (Except AEP, UK)
38 Ω (1 kHz) (when using the supplied headphone cable) (AEP, UK)
Sensitivity:
105 dB/mW (when using the supplied headphone cable) (Except AEP, UK)
97 dB/mW (when using the supplied headphone cable) (AEP, UK)

Microphone

Type: Electret condenser
Directivity: Omni directional
Effective frequency range:
50 Hz - 8,000 Hz

System requirements for battery charge using USB

Personal Computer with pre-installed with any of the following operating systems and USB port:

Operating Systems
(when using Windows)
Windows® 10 Home / Windows® 10 Pro
Windows® 8.1 / Windows® 8.1 Pro
Windows® 8 / Windows® 8 Pro
Windows® 7
Home Basic / Home Premium / Professional / Ultimate

(when using Mac)
Mac OS X (version.10.8 or later)

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CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

注意
如果电池更换不当会有爆炸危险
只能用同样类型或等效类型的电池来更换

WIRELESS STEREO HEADSET

9-896-371-01
2017A33-1
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Sony Video & Sound Products Inc.

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SECTION 1
SERVICING NOTES

The SERVICING NOTES contains important information for servicing. Be sure to read this section before repairing the unit.

DESTINATION ABBREVIATIONS

The following abbreviations for model destinations are used in this service manual.

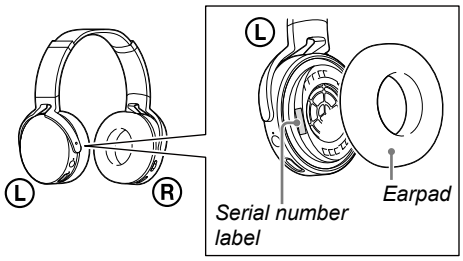
- Abbreviations
  - AEP : European, Eastern Europe, CIS area (Moldova) and Middle Eastern area (Israel) models
  - AUS : Australian and New Zealand models
  - CH : Chinese model
  - CND : Canadian model
  - IND : Indian model
  - LA : Latin American model
  - RU : CIS area (Except for Moldova) model

COLOR VARIATIONS

(B) Black : All models
(L) Blue : Except AEP, UK, IND models
(R) Red : Except AEP, UK, IND models

CHECKING METHOD OF THE SERIAL NUMBER

The serial number of this unit can be checked by removing the ear pad on the left unit.
Refer to the following figure.

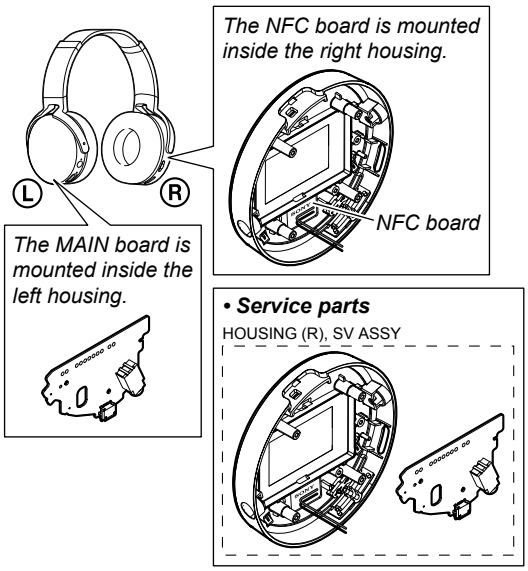


NOTES FOR REPAIR OF BOARDS

When boards installed in this unit are defective, it is replaced by the board.
Replace the complete mounted board or the whole parts including the applicable board.

NOTE FOR REPLACING OF MAIN BOARD OR NFC BOARD

It is always necessary for the MAIN board and the NFC board to be used in pairs.
Therefore, when replacing the MAIN board or the NFC board, be sure to replace both parts simultaneously.
Among the repair parts, since the MAIN board and the NFC board adhered to the right housing are supplied as one unit, when replacing the right housing, replace the MAIN board simultaneously.



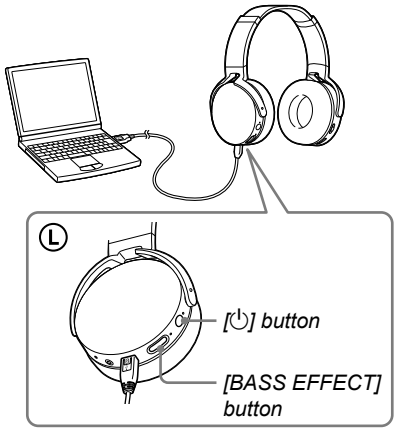
RESET METHOD

When resetting this unit, operate by following procedure.
Note: Even if this work is performed, device pairing information is not deleted.

Procedure:

1. Connect this unit to a booted computer using the supplied micro-USB cable.
2. Press the [⏻] and [BASS EFFECT] buttons simultaneously.
3. This unit be reset.

Connection:



INITIALIZING METHOD

After completion of repairs, be sure to perform the following procedure to initialize the unit.

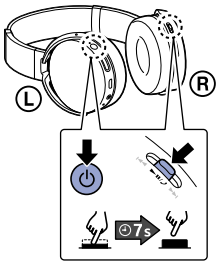
Note 1: When this work is performed, all device pairing information is deleted and settings return to factory defaults.

Procedure:

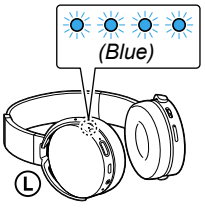
1. Check that the micro-USB cable is not connected to this unit, and turn off the power.

Note 2: If already power is turned off, check the micro-USB cable is not connected, proceed to step 2.

2. Press and hold the [⏻] button on the left channel side and the [►II/☽] button on the right channel side simultaneously for 7 seconds or longer.



3. The left channel side lamp (blue) flashes 4 times and the settings return to factory defaults.

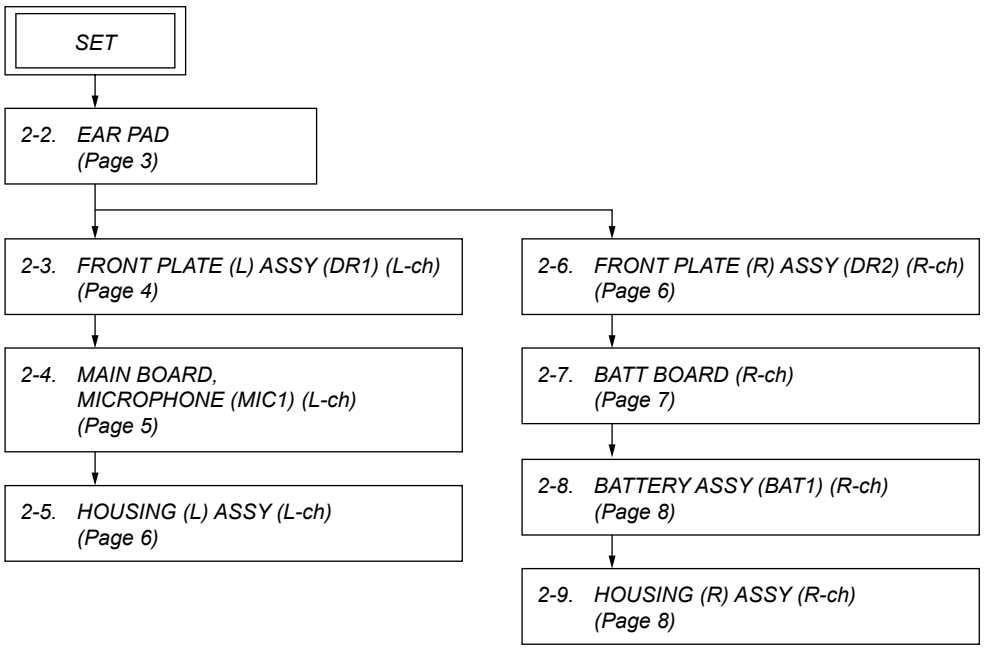


Note 3: When this unit is initialized, it might not be able to connect to iPhone or PC.
In that case, delete the registration of this unit on iPhone or PC, register the device again.

SECTION 2
DISASSEMBLY

- This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW



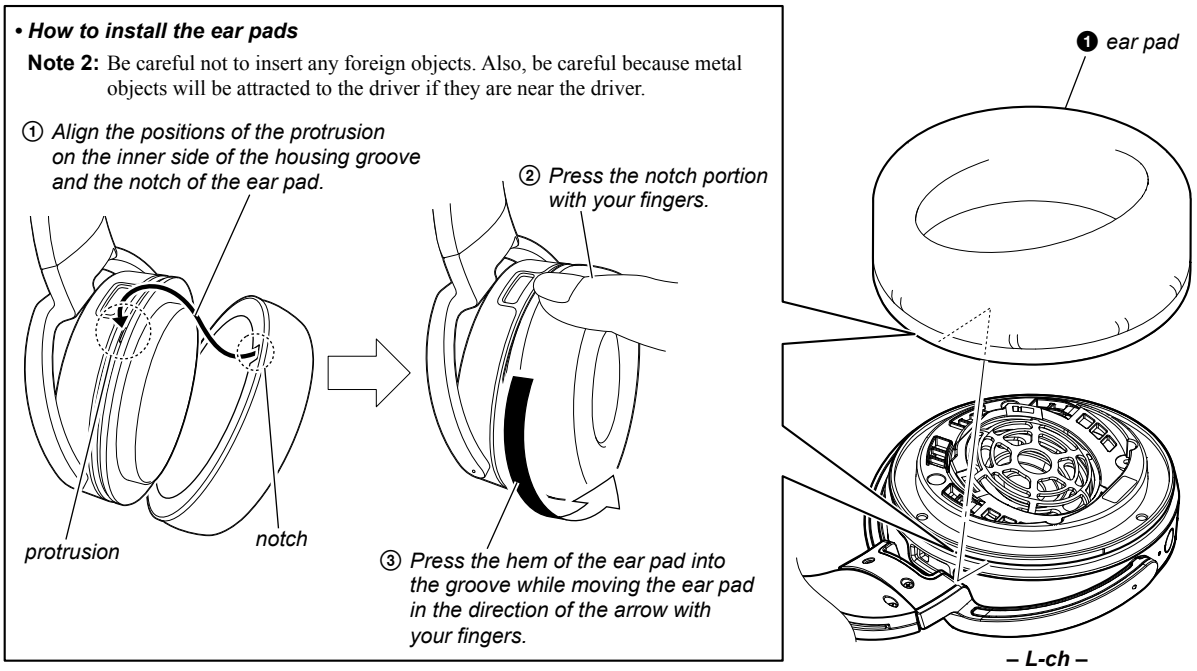
Note: Follow the disassembly procedure in the numerical order given.

2-2. EAR PAD

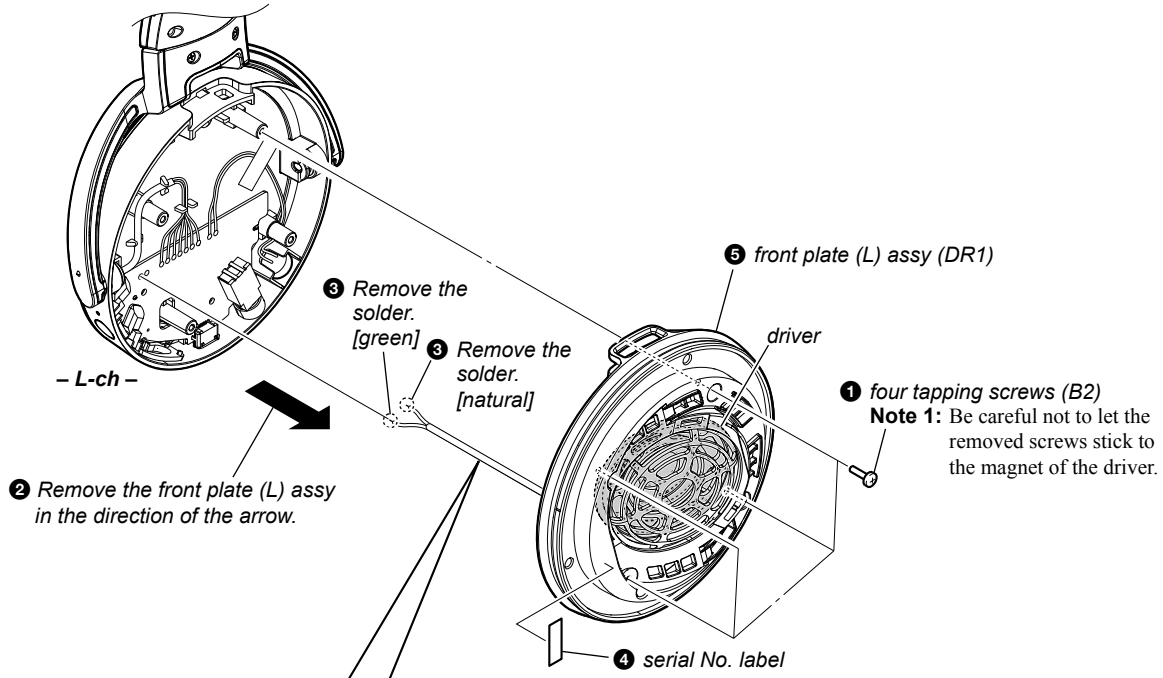
Note 1: L-ch and R-ch can be similarly disassembled.

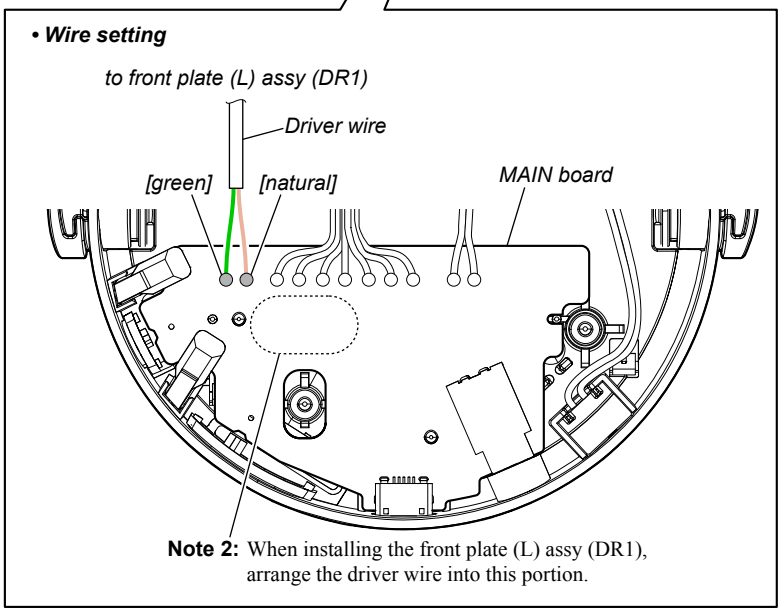
• How to install the ear pads

Note 2: Be careful not to insert any foreign objects. Also, be careful because metal objects will be attracted to the driver if they are near the driver.



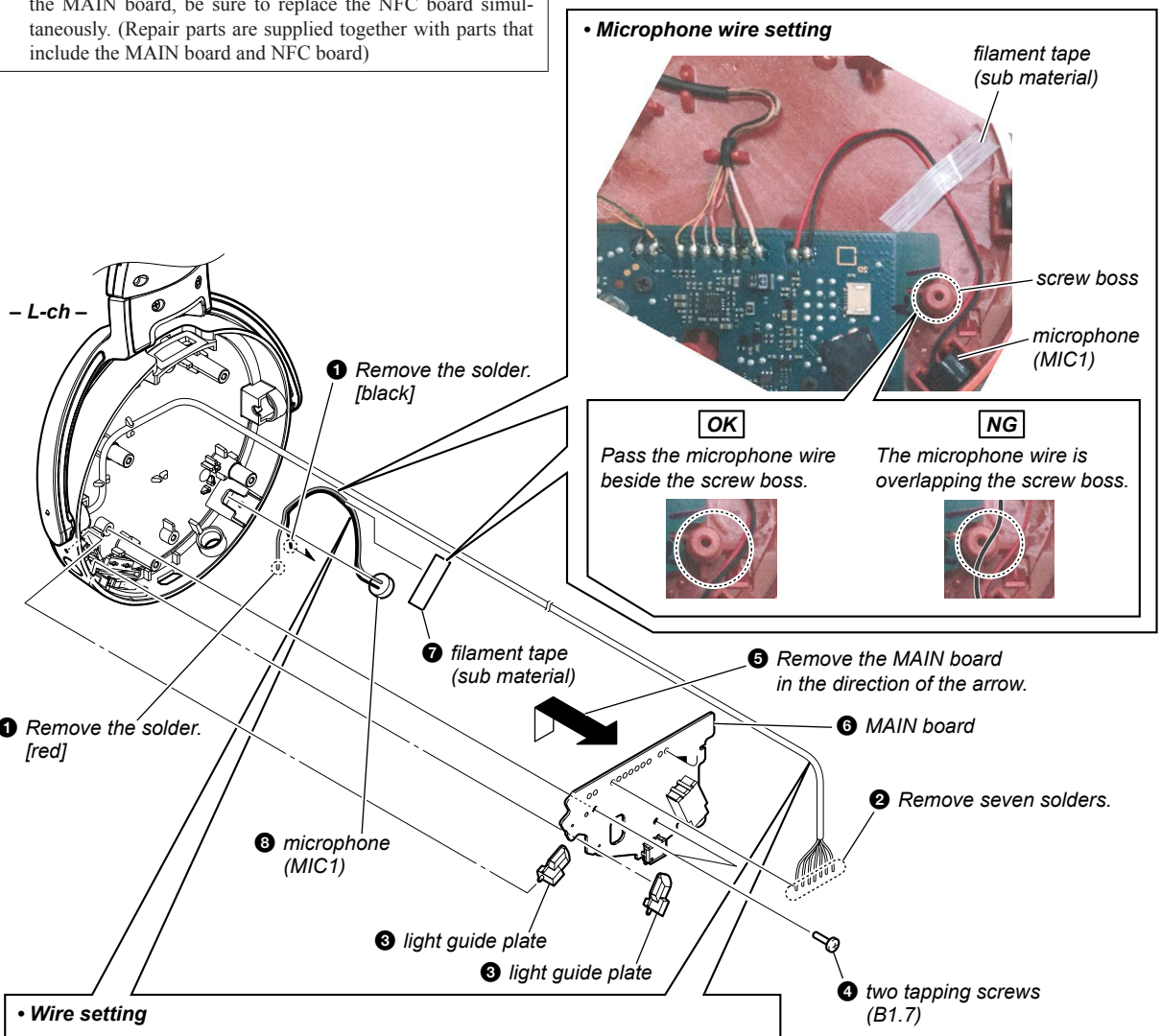
2-3. FRONT PLATE (L) ASSY (DR1) (L-ch)

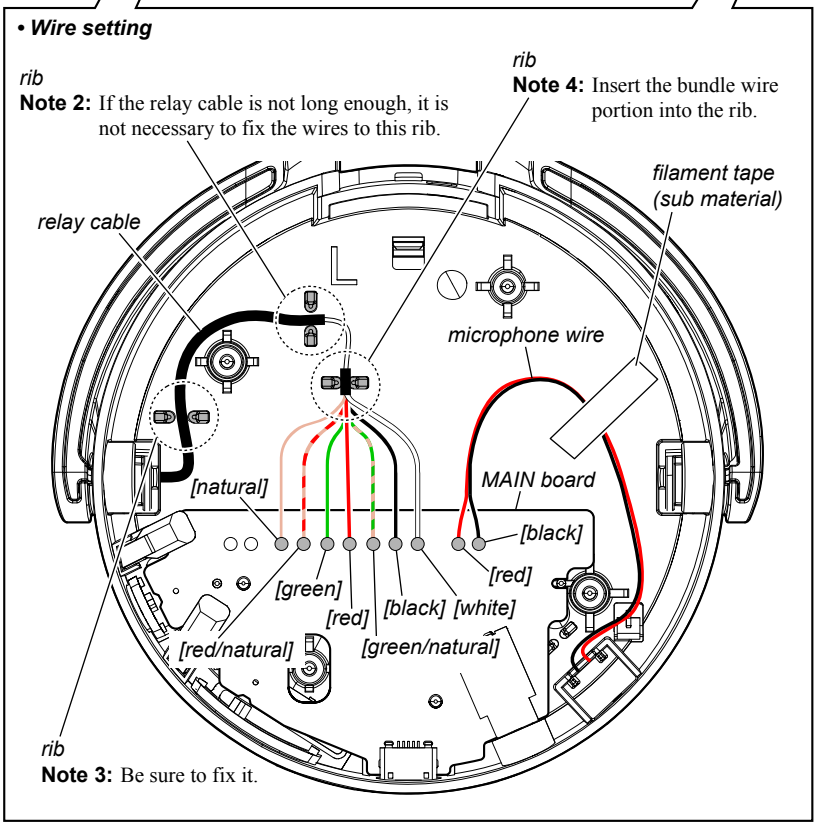




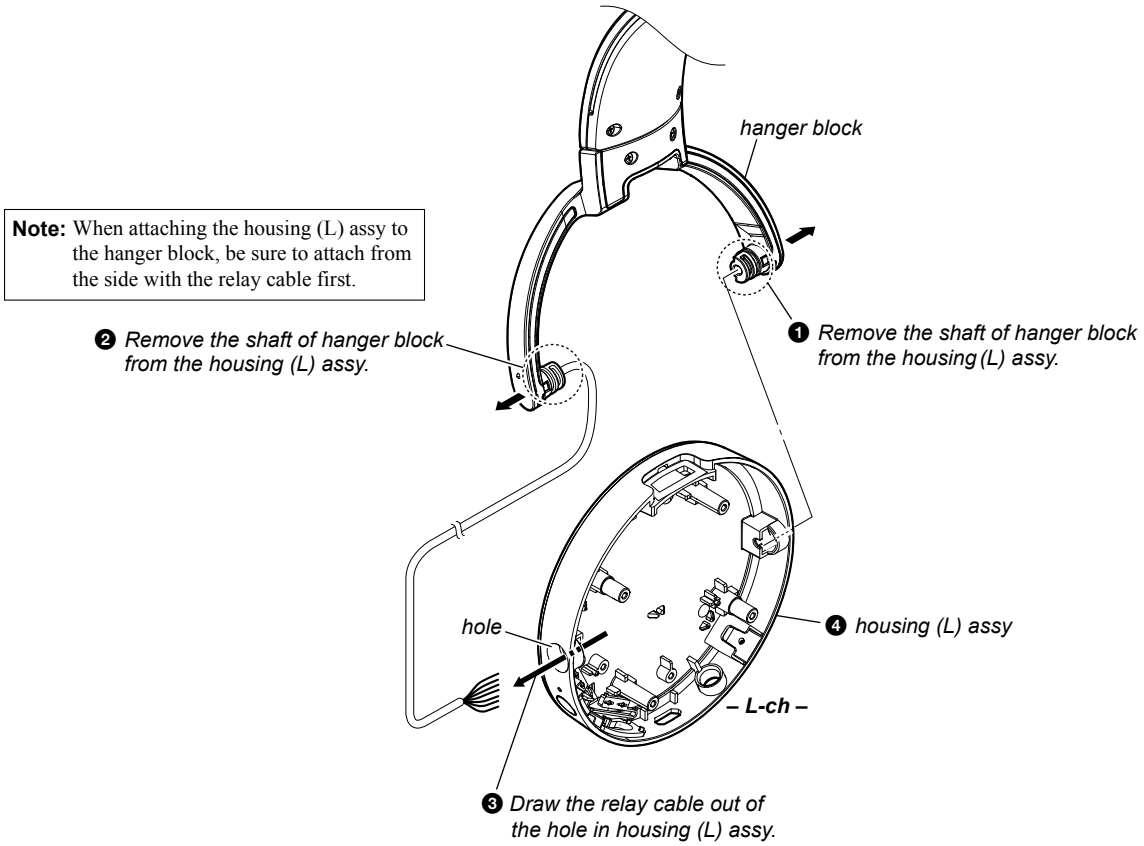
2-4. MAIN BOARD, MICROPHONE (MIC1) (L-ch)

Note 1: The MAIN board cannot replace with single. When replacing the MAIN board, be sure to replace the NFC board simultaneously. (Repair parts are supplied together with parts that include the MAIN board and NFC board)

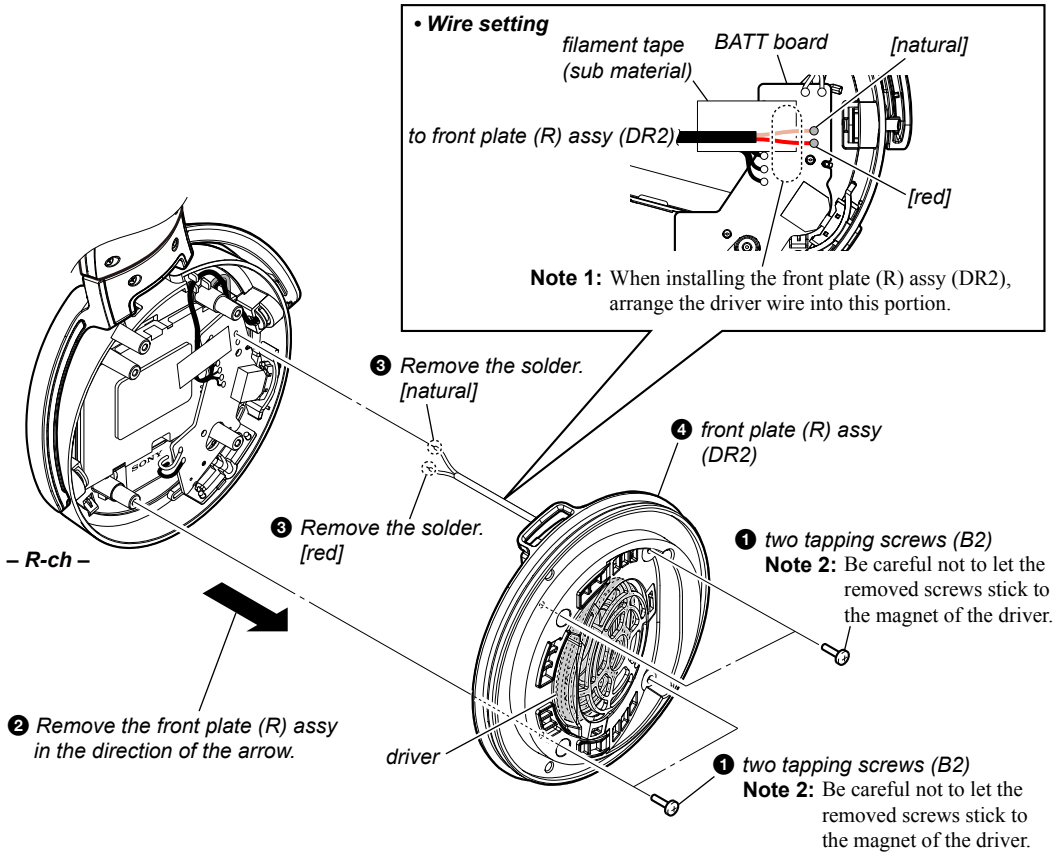




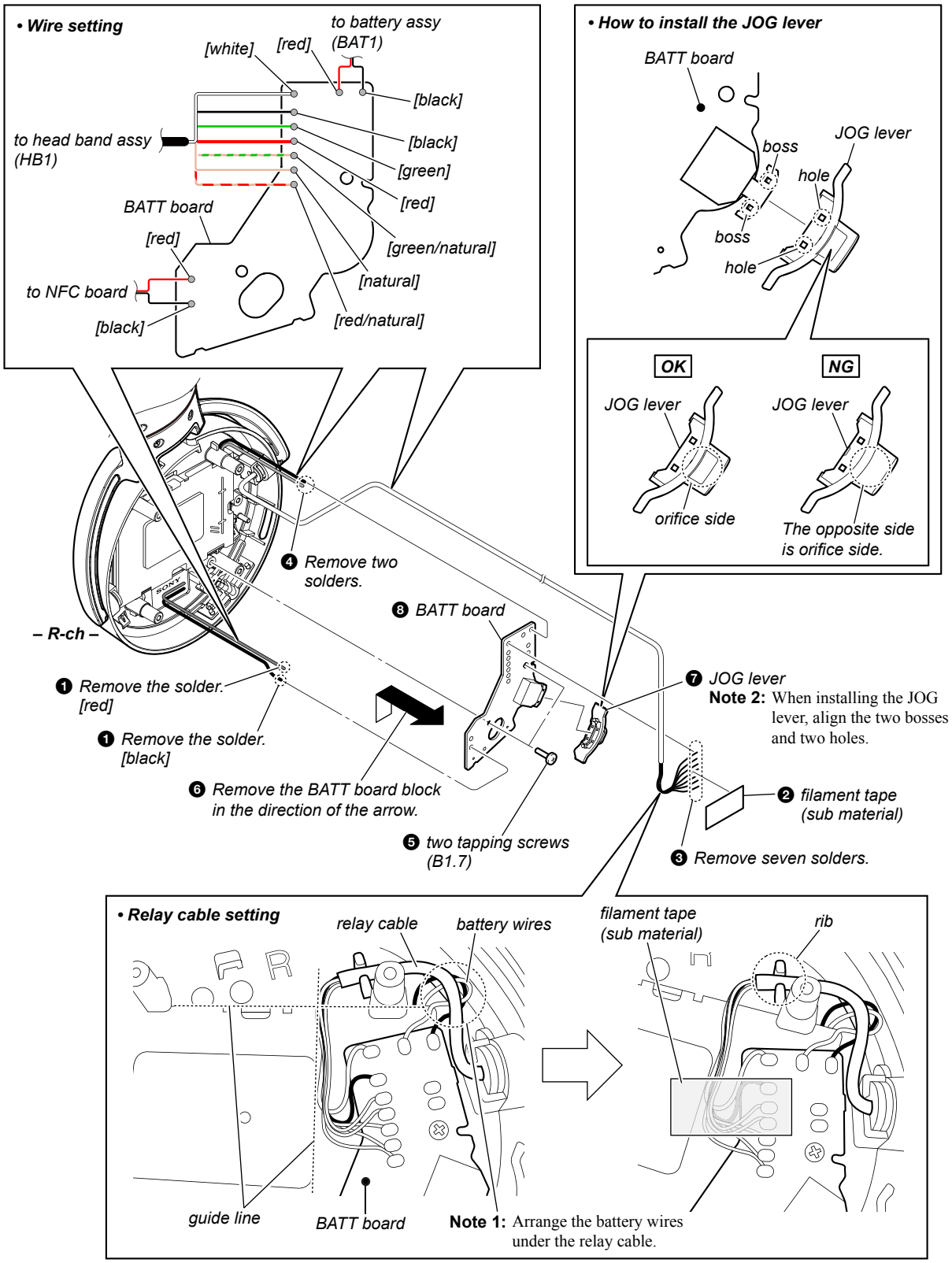
2-5. HOUSING (L) ASSY (L-ch)



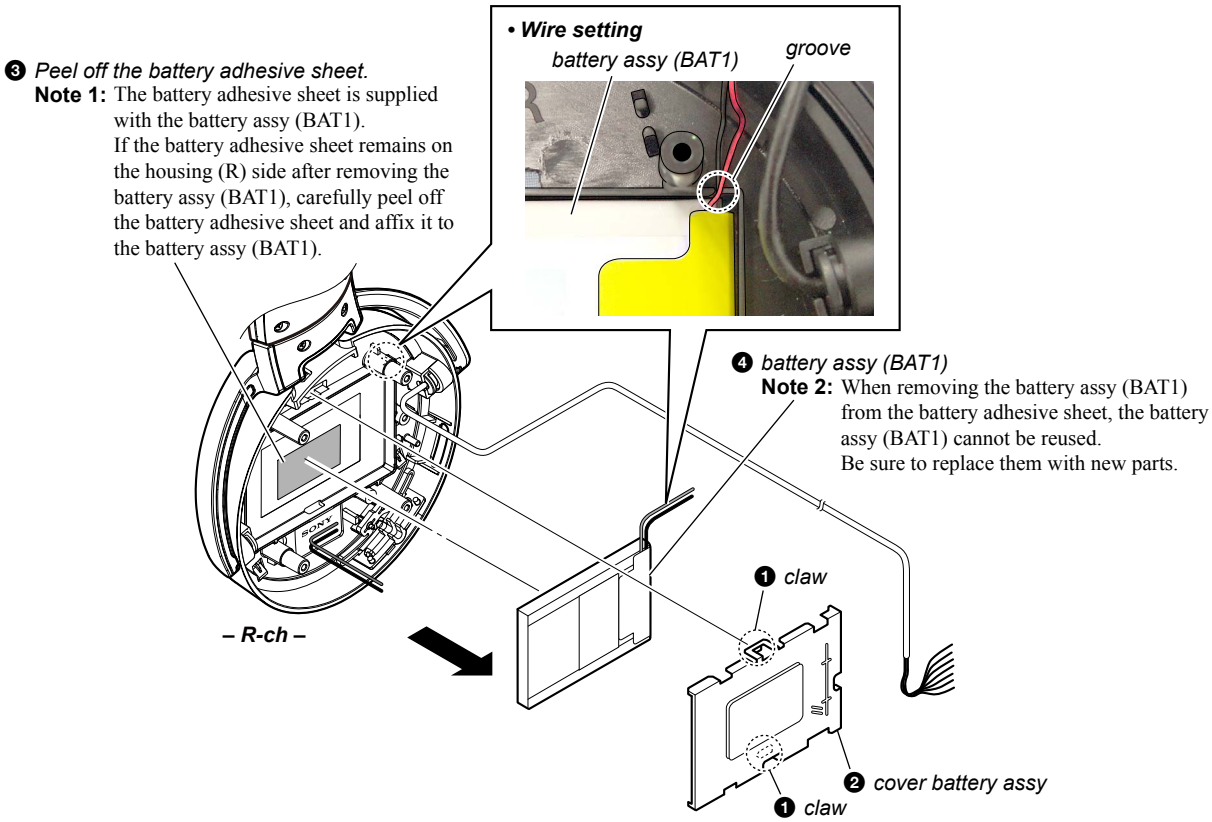
2-6. FRONT PLATE (R) ASSY (DR2) (R-ch)



2-7. BATT BOARD (R-ch)



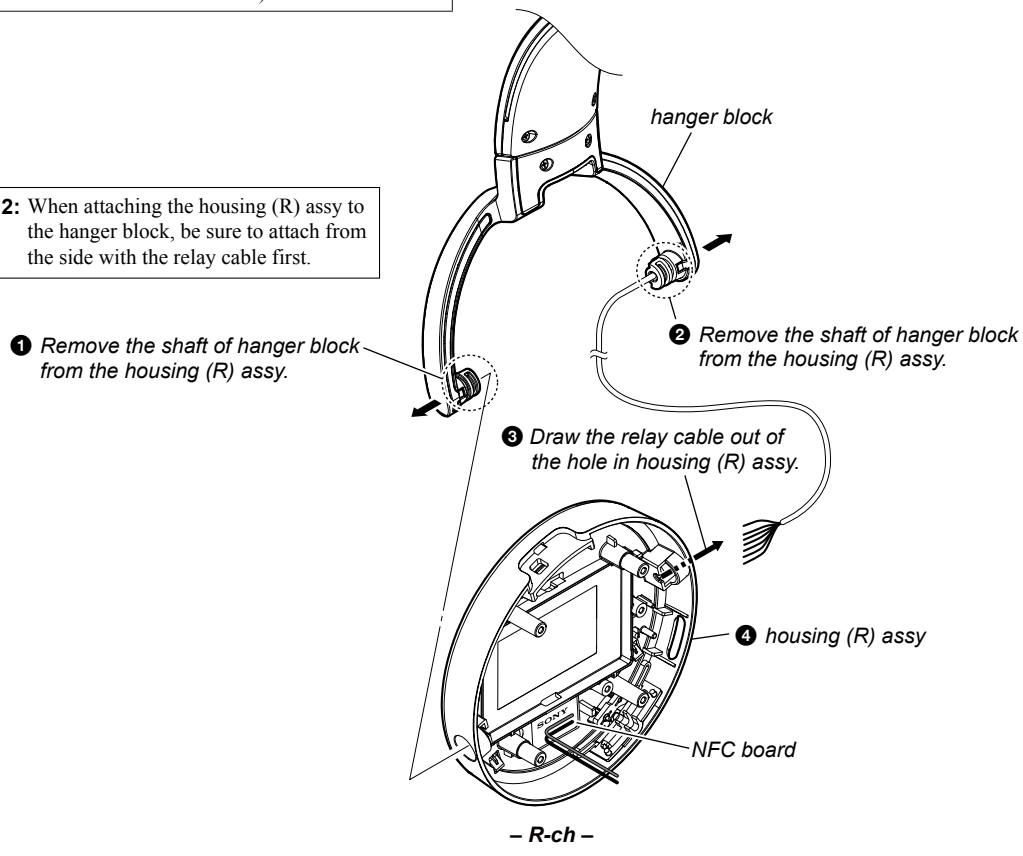
2-8. BATTERY ASSY (BAT1) (R-ch)



2-9. HOUSING (R) ASSY (R-ch)

Note 1: The NFC board cannot replace with single. When replacing the NFC board, be sure to replace the MAIN board simultaneously. (Repair parts are supplied together with parts that include the MAIN board and NFC board)

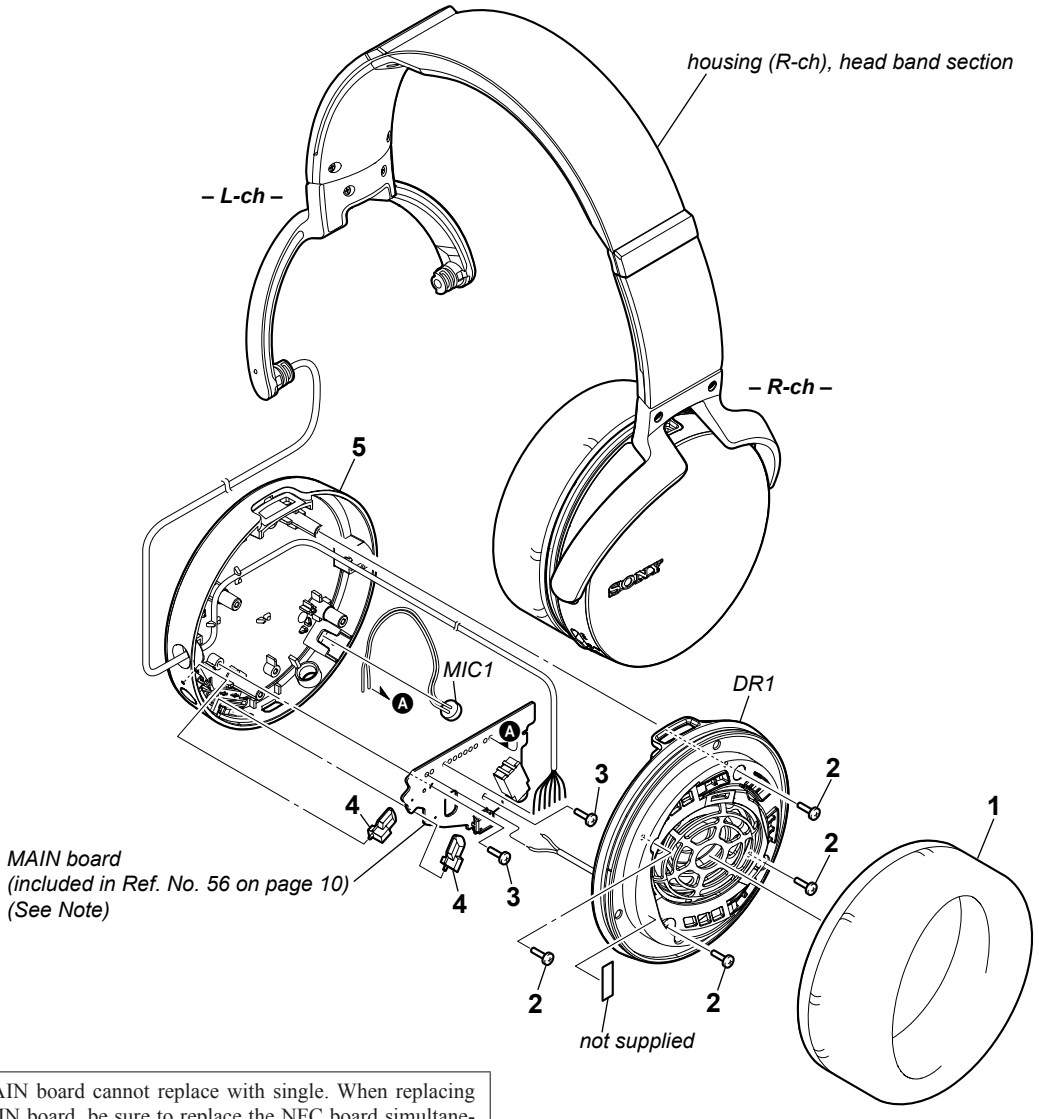
Note 2: When attaching the housing (R) assy to the hanger block, be sure to attach from the side with the relay cable first.



SECTION 3
EXPLODED VIEWS

Note:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Refer to "COLOR VARIATIONS" on page 2 about color variation of the unit.

3-1. HOUSING (L-ch) SECTION

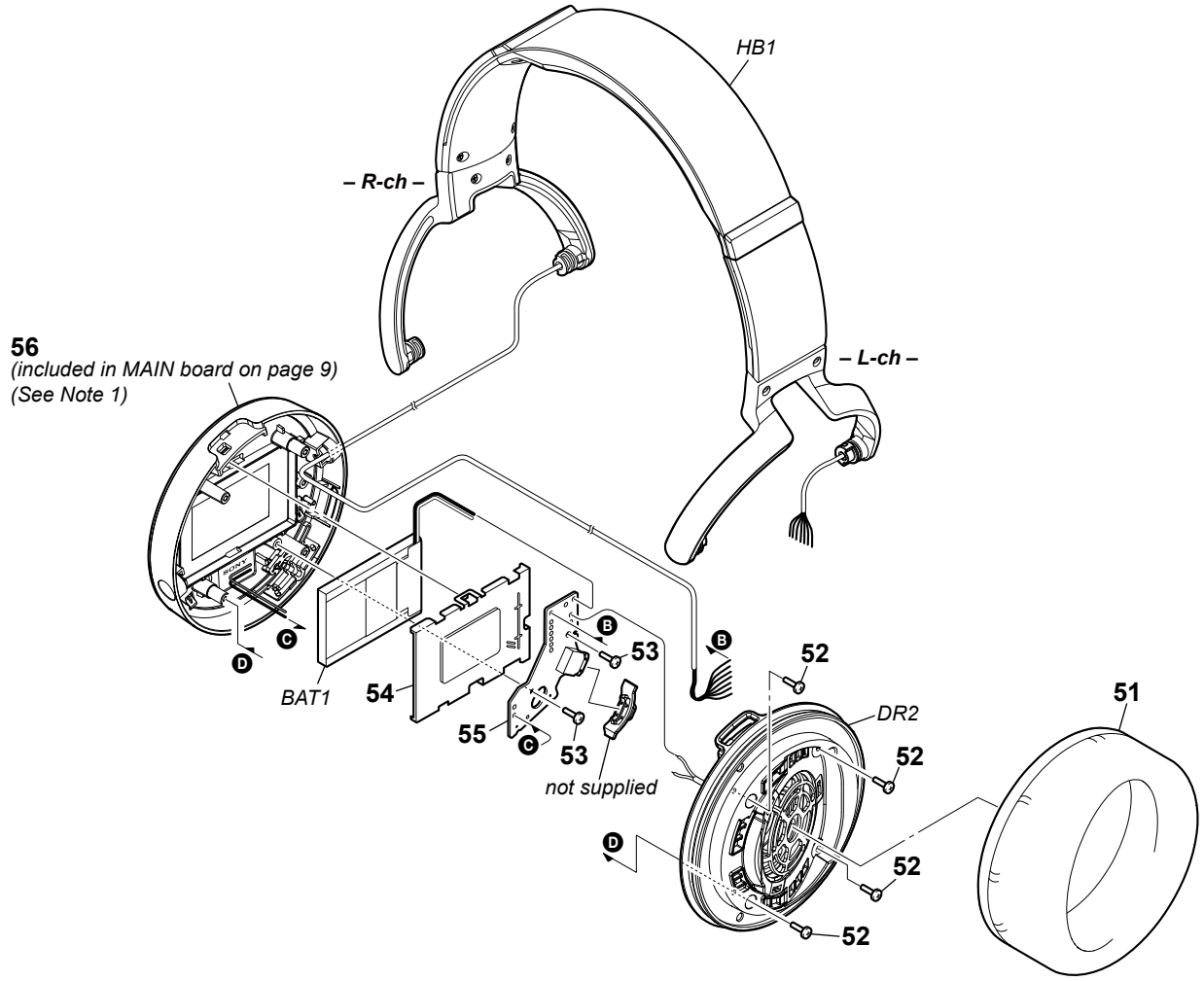


Note: The MAIN board cannot replace with single. When replacing the MAIN board, be sure to replace the NFC board simultaneously. (Repair parts are supplied together with parts that include the MAIN board and NFC board)

Ref. No.	Part No.	Description	Remark
1	4-570-942-01	PAD, EAR (for Black)	
1	4-570-942-21	PAD, EAR (for Red)	
1	4-570-942-31	PAD, EAR (for Blue)	
2	4-537-823-01	SCREW (B2), TAPPING	
3	4-537-824-01	SCREW (B1.7), TAPPING	
4	4-537-807-01	PLATE, LIGHT GUIDE	
5	A-2182-584-A	HOUSING (L), SV ASSY (for L-ch) (Including Button) (for Red)	
5	A-2182-589-A	HOUSING (L), SV ASSY (for L-ch) (Including Button) (for Black)	
5	A-2182-888-A	HOUSING (L), SV ASSY (for L-ch) (Including Button) (for Blue)	

Ref. No.	Part No.	Description	Remark
DR1	A-2182-586-A	PLATE FRONT (L), SV ASSY (for L-ch) (Including Driver, Wire) (for Blue, Red) (US, CND, E, AUS, CH, RU, LA)	
DR1	A-2182-593-A	PLATE FRONT (L), SV ASSY (for L-ch) (Including Driver, Wire) (for Black) (US, CND, E, AUS, CH, RU, IND, LA)	
DR1	A-2182-595-A	PLATE FRONT (L) (CE), SV ASSY (for L-ch) (Including Driver, Wire) (for Black) (AEP, UK)	
MIC1	1-852-026-11	MICROPHONE (Including Wire)	

3-2. HOUSING (R-ch), HEAD BAND SECTION



Note 1: The NFC board cannot replace with single. When replacing the NFC board, be sure to replace the MAIN board simultaneously. (Repair parts are supplied together with parts that include the MAIN board and NFC board)

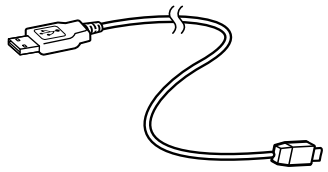
Note 2: When removing the battery assy (Ref. No. BAT1) from the battery adhesive sheet, the battery assy (Ref. No. BAT1) cannot be reused. Be sure to replace them with new parts.

Ref. No.	Part No.	Description	Remark
51	4-570-942-01	PAD, EAR (for Black)	
51	4-570-942-21	PAD, EAR (for Red)	
51	4-570-942-31	PAD, EAR (for Blue)	
52	4-537-823-01	SCREW (B2), TAPPING	
53	4-537-824-01	SCREW (B1.7), TAPPING	
54	A-2059-684-A	COVER BATTERY ASSY	
55	A-2167-657-A	BATT BOARD, COMPLETE	
56	A-2182-585-A	HOUSING (R), SV ASSY (for R-ch) (Including MAIN board, NFC board) (for Red) (US, CND, E, AUS, CH, RU, LA) (See Note 1)	
56	A-2182-591-A	HOUSING (R), SV ASSY (for R-ch) (Including MAIN board, NFC board) (for Black) (Except AEP, UK) (See Note 1)	
56	A-2182-592-A	HOUSING (R) (CE), SV ASSY (for R-ch) (Including MAIN board, NFC board) (for Black) (AEP, UK) (See Note 1)	
56	A-2182-889-A	HOUSING (R), SV ASSY (for R-ch) (Including MAIN board, NFC board) (for Blue) (US, CND, E, AUS, CH, RU, LA) (See Note 1)	
BAT1	A-2182-590-A	BATTERY SV ASSY (Including Adhesive sheet, Label) (Except CH) (See Note 2)	
BAT1	A-2185-355-A	BATTERY SV ASSY (CN) (Including Adhesive sheet, Label) (CH) (See Note 2)	
DR2	A-2182-587-A	PLATE FRONT (R), SV ASSY (for R-ch) (Including Driver, Wire) (for Blue, Red) (US, CND, E, AUS, CH, RU, LA)	
DR2	A-2182-594-A	PLATE FRONT (R), SV ASSY (for R-ch) (Including Driver, Wire) (for Black) (US, CND, E, AUS, CH, RU, IND, LA)	
DR2	A-2182-596-A	PLATE FRONT (R) (CE), SV ASSY (for R-ch) (Including Driver, Wire) (for Black) (AEP, UK)	
HB1	A-2167-528-A	HEADBAND ASSY (Including Relay cable) (for Black) (US, CND, LA)	
HB1	A-2167-529-A	HEADBAND ASSY (Including Relay cable) (for Red) (US, CND, LA)	
HB1	A-2167-530-A	HEADBAND ASSY (Including Relay cable) (for Blue) (US, CND, LA)	
HB1	A-2167-634-A	HEADBAND ASSY (Including Relay cable) (for Black) (AEP, UK)	
HB1	A-2167-635-A	HEADBAND ASSY (Including Relay cable) (for Black) (E, AUS, RU)	
HB1	A-2167-636-A	HEADBAND ASSY (Including Relay cable) (for Red) (E, AUS, RU)	
HB1	A-2170-600-A	HEADBAND ASSY (Including Relay cable) (for Blue) (E, AUS, RU)	
HB1	A-2170-601-A	HEADBAND ASSY (Including Relay cable) (for Black) (CH)	
HB1	A-2170-602-A	HEADBAND ASSY (Including Relay cable) (for Red) (CH)	
HB1	A-2170-603-A	HEADBAND ASSY (Including Relay cable) (for Blue) (CH)	
HB1	A-2170-604-A	HEADBAND ASSY (Including Relay cable) (for Black) (IND)	

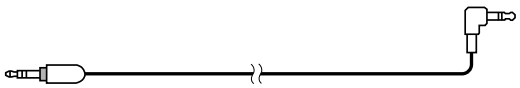
SECTION 4
ACCESSORIES

Ref. No.	Part No.	Description	Remark
	4-689-645-12	MANUAL, INSTRUCTION (Operating Instructions)	
	4-689-646-11	GUIDE, REFERENCE (ENGLISH, FRENCH, SPANISH) (US, CND, LA)	
	4-689-646-23	GUIDE, REFERENCE (SIMPLIFIED CHINESE)	(CH)
	4-689-646-33	GUIDE, REFERENCE (ENGLISH, TRADITIONAL CHINESE, KOREAN, RUSSIAN, UKRAINIAN) (E, AUS, RU, IND)	
	4-689-646-41	GUIDE, REFERENCE (ENGLISH, FRENCH, SPANISH, GERMAN, DUTCH, ITALIAN, HUNGARIAN, POLISH) (AEP, UK)	
	4-689-646-51	GUIDE, REFERENCE (BULGARIAN, CZECH, PORTUGUESE, SLOVAK, ROMANIAN, SLOVENIAN, GREEK) (AEP, UK)	
501	1-848-682-11	CABLE, CONNECTION (USB)	(Micro-USB cable (approx. 50 cm))
502	1-846-746-71	CABLE (WITH PLUG)	(Headphone cable (approx. 1.2 m))

501
Micro-USB cable (approx. 50 cm) (1)



502
Headphone cable (approx. 1.2 m) (1)



REVISION HISTORY

Ver.	Date	Description of Revision
1.0	2017.01	New